

1 June 1967

Dr. H. Orin Halvorson  
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University of Minnesota  
St. Paul, Minnesota 55101

Dear Dr. Halvorson:

Enclosed are the three revisions or modifications for the report. Please let me know if there is anything further which you wish me to do in the way of revisions. Also enclosed is the section on Civil Defense. This section needs to be meshed with Dr. Housewright's. It has been modified per the suggestions of the panel.

Sincerely,

[Redacted Signature]

cc: Dr. Baldwin (without civil defense paper)  
Dr. Goldman (without civil defense paper)  
Dr. Housewright

Enclosures (4)

[Redacted Enclosure]

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Revision on Top of Page 5

Recommendation on Environmental Health

...Their environmental health will, therefore, be an important problem for our military command. Knowledge of world wide environmental health conditions is consequently more important now than ever before. It is recommended that an aggressive program in the collection, collation, and dissemination of information pertaining to environmental health be established and assigned to an appropriate federal agency.

Revision on Page 9 - Paragraph on Nutrition and Alertness

The work done on nutrition in the past has concerned itself primarily with 1) the number of calories required to supply needed energy 2) the amount of proteins, carbohydrates and fats and minerals required to sustain growth and maintenance and 3) the amount of vitamins necessary for the proper functioning of enzymes. Even though these are the important facets of nutrition it is quite probable that there are other ways in which nutrition may affect a man's health and well being. Does nutrition influence a man's alertness, performance, and decision making? If so we should know a great deal more about this facet of nutrition. Modern technology is providing man with many machines and weapons operated electronically requiring split second decisions on the part of the operator. Alertness is clearly required where pilots are handling aircraft traveling at several times the speed of sound. Alertness is also required for the average citizen who is handling our powerful modern automobiles. The need for alertness, performance, and rapid decision making in modern warfare is so great that a strong research program in this field is justified, as an expenditure for national defense.

Revision of Pages 19 through 24

## **MENTAL AND PHYSICAL DEFECTS AND DISEASE PROBLEMS**

### **Manpower Availability Through the Selective Service**

There is an enormous pool of data available on manpower rejection rates for selective service. Much of these data cannot be directly compared, for example, between World War I, World War II, the Korean conflict, and the current conflict in Viet Nam. The reasons are basically because the standards for acceptance vary depending upon the complexity of the machinery of war and because the total manpower requirements vary. Standards become less stringent when large numbers of soldiers are required as was the case in 1942 to 1944 in World War II. Nevertheless, there are some rather interesting trends which have been reported. Only the most significant changes in the availability of manpower are felt to be appropriate to this report.

During the early phases of World War II, approximately 50% of those examined for induction through the selective service were called for general duty. Another 25% were inducted for limited duty. During the later phases of World War II, the rejection rate for inductees rose to approximately 50%. Causes for rejection were primarily for a variety of physical defects (approximately 90%) with

only a relatively small rejection rate due to failure to meet the mental test standards. From the end of World War II to the present time, the overall rejection rate for inductees has continued to remain at about the 50% level. However, the causes for rejection have shown a major change which the panel feels is highly significant.

By comparison, data obtained during the period 1964-1965 show that of the two million draftees forwarded to the armed forces for examination for induction, approximately half a million were disqualified for medical reasons and almost the same number failed to pass the mental test. Although the overall rejection rate has remained relatively constant, failure to meet the mental test standards (which accounted for 10% of the rejections in World War II) account for 50% of the rejections at the present time. It is also worth noting that the rejection rate for Negroes is approximately four times as high as for non-Negro draftees, the major reason being failure to meet the mental test requirements.

There are also marked geographic differences with respect to rejection rates. For example, there were nearly two and one-half times as many rejections among the inductees in the south as there were in the north central region of the country. There were also marked differences between states; for example, the rejection rate in Mississippi was nearly ten times that in the state of Iowa, primarily on the basis of the mental test. The point is that there are obvious

differences in the rejection rate on both a geographic and ethnic basis.

Studies have been undertaken to determine the reasons for this high rejection rate. It should be pointed out that the mental test used in the selective service system, the AFQT, is primarily designed to measure the examinee's general mental ability to absorb military training within a reasonable length of time and to provide some uniform measure of the examinee's potential general usefulness in the service. It is specifically intended to predict potential success in general military training and performance and was validated for that purpose. The AFQT differs somewhat from previous mental tests used by the services. A number of correlations were made to attempt to relate the AFQT scores with educational attainment. If one compares the median scores on an ethnic basis alone, there seems to be no very significant difference with respect to educational attainment. However, if one considers the data on the basis of geographic and ethnically differentiated groups, there is a very marked difference. In summary, it appears as though the determining factors on mental rejection are not only related to the level of formal education and its quality but to interrelated socio-economic factors outside the school.

The causes for medical disqualification among inductees generally reflect major health problems extant in the general population. However, there is an alarming increase in the rate of rejection

on the basis of mental tests. Although this is not a problem confined to national defense alone, it is in one sense a measure of the overwhelming need for improved education, particularly in the socio-economically depressed areas. Data suggests that the relative rate of rejection on the basis of mental standards will continue to increase, probably in direct relation to the complexity of modern warfare. The panel endorses programs to improve education of the youth in socio-economically depressed areas and wishes to emphasize the importance which this has with respect to our national defense.

## V. CIVIL DEFENSE

The current medical civil defense effort is based upon a number of assumptions which include the unavailability of hardened shelters. As a result, only limited fallout protection will be available in the event of a massive attack. Analysis of the availability of physician survivors of an attack as well as available hospital facilities indicate that the rate of survivors will be dependent more on the availability of trained manpower than on any other single factor. Trained medical personnel, however, will be of little use without adequate supplies and equipment properly distributed. Some provision has been made for the stockpiling of hospitals, equipment and supplies. In any case, however, these supplies need to be renewed and relocated and expanded to provide a thirty-day supply of equipment, drugs, and the like. In spite of the relatively pessimistic view taken by many, it would appear that adequate supplies and equipment, if properly located, could save millions of lives in a nuclear attack.

It would seem prudent to increase the number of personnel who could provide some form of medical assistance during the post attack period. Various civil defense agencies at the federal and local levels have undertaken a number of training programs for the civilian population. Indeed, approximately two million people are now receiving some form of civil defense training. Nevertheless, it is quite clear that the civilian population, either due to apathy or other reasons, have not



chosen to take advantage of civil defense training. Experience to date would indicate that simply augmenting the number of courses available on a voluntary basis is not likely to increase the number of trained civilians. It is unlikely that some form of compulsory training would be acceptable to the population at large unless such a program was integrated into current educational programs.

The availability of food, water, and sewage disposal are of great importance with respect to post attack survival. The Department of Agriculture and a number of other agencies have been given responsibilities in terms of civil defense. With respect to food, the Department of Agriculture has set up an extensive program at the federal, state, and local levels. Personnel who make up this organization are equipped and trained to carry out radiological monitoring, food inspection, water inspection, and to assist the local population in obtaining critical food items. The panel feels that there are not adequate stockpiles of food currently available. It must be kept in mind that large reserves of cereal grains have been depleted over the past few years. Concurrently, the food industry, because of technological advances and better distribution methods, tend to maintain lower inventories. As a result, there is serious doubt that food supplies available in a post attack situation would be adequate for the majority of the survivors.

Recommendation. It is recommended that the federal government explore ways in which medical civil defense training might be made available more generally to young people, perhaps in conjunction

with current programs on physical fitness. It is further recommended that the status of food supplies available in a post attack situation be reviewed carefully.